Alcohol Counseling

Physicians Will Do It

Abigail Adams, MD, Judith K. Ockene, PhD, Elizabeth V. Wheeler, PhD,
Thomas G. Hurley, MS

OBJECTIVE: To assess the use of a brief provider-delivered alcohol counseling intervention of 5 to 10 minutes with high-risk drinking patients by primary care providers trained in the counseling intervention and provided with an office support system.

DESIGN: A group randomized study design was used. Office sites were randomized to either a usual care or special intervention condition, within which physicians and patients were nested. The unit of analysis was the patient.

SETTING: Primary care internal medicine practices affiliated with an academic medical center.

PARTICIPANTS: Twenty-nine providers were randomized by practice site to receive training and an office support system to provide an alcohol counseling special intervention or to continue to provide usual care.

INTERVENTION: Special intervention providers received 2 1/2 hours of training in a brief alcohol-counseling intervention and were then supported by an office system that screened patients, cued providers to intervene, and made patient education materials available as tip sheets.

MEASUREMENTS AND MAIN RESULTS: Implementation of the counseling steps was measured by patient exit interviews (PEI) immediately following the patient visit. The interval between the date of training and the date of the PEI ranged from 6 to 32 months. Special intervention providers were twice as likely as usual care providers to discuss alcohol use with their patients. They carried out every step of the counseling sequence significantly more often than did usual care providers ($p < .001$). This intervention effect persisted over the 32 months of follow-up.

CONCLUSIONS: Physicians and other health-care providers trained in a brief provider-delivered alcohol intervention will counsel their high-risk drinking patients when cued to do so and supported by a primary care office system.

KEY WORDS: alcoholism; problem drinking; counseling.
J GEN INTERN MED 1998;13:692-698.

Helping patients to moderate their alcohol use is one of the most pressing challenges facing health care providers. Alcohol use, abuse, and dependence are well-documented causes of major social, legal, economic, and health complications. One in every 10 deaths in the United States is related to alcohol, and 20% of the total national health expenditure for hospital care is spent on alcohol-related illnesses.¹⁻³

Research suggests that socially stable, heavy-drinking medical patients respond to brief intervention strategies delivered by a primary care physician or other health care provider.⁴⁻⁷ These studies suggest that patient education, provider-delivered advice, monitoring of medical complications, and regular outpatient medical follow-up are effective in reducing alcohol-related morbidity and mortality. The 1990 report from the Institute of Medicine recommends that alcohol intervention be carried out for all adult patients in an outpatient setting.⁸ The health care setting is an important point of contact for persons with alcohol problems as 80% of all adults in the United States have at least one contact per year with a physician's office.⁹ Given the frequency of contact and their potential effectiveness in helping patients improve health behaviors, health care providers have important roles as educators, facilitators, or counselors for patients with alcohol problems.

Despite their substantial potential for favorably influencing alcohol-related behaviors, and their almost universal belief that it is their responsibility to help their patients who have alcohol-related problems,^{10,11} primary care providers have paid scant attention to their patients' alcohol use. For example, in a large primary care clinic, physicians detected alcohol problems in fewer than half of their patients with current alcohol abuse or dependence.^{12,13} In another study, only 25% of patients found to be alcohol-dependent were warned of the health risks of drinking by their health care provider or advised to reduce or stop using alcohol, and fewer than 1 in 10 were referred for alcohol treatment.¹¹

The discrepancy between what physicians see as their responsibility and what they do suggests that there are several barriers to physicians intervening with patients who have alcohol problems. These include lack of training, lack of confidence in alcohol intervention skills, discouragement based on past negative experiences treating alcohol problems, concern about limited time and practice resources,^{12,14-17} and lack of a structured office system to facilitate providers' intervention.^{18,19}

To help primary care providers develop alcohol-intervention counseling skills, we adapted a smoking intervention training program that we have found to be

---

Received from the General Medicine/Primary Care (AA) and Preventive and Behavioral Medicine (JKO, EVW, TGH), University of Massachusetts Medical School, Worcester.

Address correspondence and reprint requests to Dr. Ockene: Preventive and Behavioral Medicine, University of Massachusetts Medical School, 55 Lake Ave. N, Worcester, MA 01655.

efficacious to address alcohol.²⁰ To facilitate use of the alcohol intervention skills, we developed an office support system. The alcohol counseling training and office system is part of a randomized clinical trial, Project Health, funded by the National Institute on Alcohol Abuse and Alcoholism, that is designed to answer three questions: (1) Will a 2 1/2-hour training program increase primary care providers' alcohol intervention counseling skills? (2) Will primary care providers who have received training in a brief alcohol counseling intervention of 5 to 10 minutes use these skills with high-risk drinkers in a clinical setting that provides a facilitative office support system? (3) Will these interventions help "at-risk" heavy alcohol users significantly reduce their alcohol usage? In this article, we address the second of these primary goals as measured by patient exit interviews (PEIs).

METHODS

Providers

Twenty-nine health care providers consisting of 21 attending physicians, 1 resident, and 7 nurse practitioners were randomized by clinical site to a usual care or a special intervention condition. All practiced in primary care offices based in a large academic medical center. All attending physicians were board-certified internists (Table 1).

The *usual care* providers were encouraged to identify and intervene with their high-risk drinkers to whatever extent they thought was appropriate. All providers were encouraged to attend the weekly conference series in which the approach to patients with alcohol problems was presented as one session in a 2-year general medicine curriculum.

The *special intervention* providers received the training described below. In addition, a structured office support system was used to assist the busy primary care provider in carrying out the intervention taught in the training pro-

gram. Although implemented by research assistants, the office support system was designed to be incorporated easily into usual office procedures. The system includes identifying the high-risk drinker on the basis of responses to the baseline questionnaire and affixing the following to the chart before a scheduled visit: a brief printout of weekly drink consumption, family history of alcoholism, patient report of alcohol-related negative consequences previously identified by lifestyle questionnaire; the intervention algorithm, which follows the counseling sequence taught in the training sessions; a referral list of substance abuse counselors for alcohol-dependent patients; and patient education materials in the form of tip sheets and a "goal statement."

Training for Special Intervention

The Project Health provider-delivered intervention was developed at the University of Massachusetts Medical School to teach providers counseling intervention that includes a brief motivational interviewing approach to negotiate change in alcohol consumption and takes approximately 5 to 10 minutes. The change in orientation required to be able to work with high-risk drinking issues (when the goal may be reduction in drinking) versus alcohol dependence (when the goal is abstinence) was emphasized throughout the training. Training occurred in two group sessions followed by a brief individual tutorial with a total training time of 2 1/2 hours.²⁰

Alcohol intervention training used a "patient-centered" counseling approach that elicits active patient involvement in behavior change through initially nondirective, open-ended questions (e.g., "How do you feel about your drinking?" or "How might you go about cutting down?"). This approach contrasts with the traditional "provider-centered" model in which the provider assumes a greater degree of control, advises the patient what to do, or questions the patient in a directive fashion without eliciting the patient's

Table 1. Provider Characteristics by Condition (n = 29)

Characteristic	Usual Care	Special Intervention	Total	p Value
Continuous variables, mean ($\pm$ SD)*				
Age, years	35.9 (5.1)	39.1 (5.3)	37.8 (5.4)	.12
Office hours per week	20.4	20.8		
Years since received MD degree	8.3 (4.7)	10.1 (5.3)	9.3 (5.0)	.34
Categorical variables, n (%)†				
Gender				
Male	6 (50)	6 (35)	12 (41)	.43
Female	6 (50)	11 (65)	17 (59)	
Provider type				
Attending physician	9 (75)	12 (71)	21 (72)	.39‡
Resident physician	1 (8)	0 (0)	1 (4)	
Nurse practitioner	2 (17)	5 (29)	7 (24)	

*The two-sample Student's t test was used for the comparison of continuous variables.

†The χ^2 statistic was used for the test of homogeneity of proportions for categorical variables.

‡Fisher's Exact Test.

thoughts or feelings (e.g., "You have a drinking problem." or "You need to stop drinking."). The intervention algorithm for the initial visit includes 6 steps that focus on cognitions and behaviors. The training demonstrated that patient-centered approaches in which the patient and provider mutually agree on specific alcohol-related cognitive or behavioral changes actually require less visit time than provider-centered approaches.

The providers also were taught to use patient educational materials (i.e., tip sheets) and a goal statement. These materials enable patients to identify problems interfering with alcohol behavior change and solutions that are realistic for their circumstances and past experiences. Intervention packets that contain these materials, as well as the algorithms, standard drink information, DSM-IV criteria for diagnosing alcohol dependence, and a referral list for alcohol-dependent patients, were given to each provider with instruction on how to introduce them to patients.

Study Sites

The four study practice sites are at or near the medical center and are defined by separate nursing staff, medical residents, patient assignments and coverage arrangements.

Patient Recruitment

Patients seen within the last 3 years at the study's primary care internal medicine practice sites were screened using three different approaches (61% were screened in the office, 20% by mail, and 19% by telephone) for high-risk drinking using a standardized, embedded, health habits screening questionnaire.²¹ High-risk drinking was defined using World Health Organization and National Institute on Alcohol Abuse and Alcoholism guidelines: males drinking at least 5 drinks per occasion or more than 12 drinks per week; females drinking more than 4 drinks per occasion or more than 9 drinks per week. The prevalence of high-risk drinking in the primary care center population was 9.5%. Those who screened positive by alcohol consumption criteria were invited to complete a standardized research interview in person or by telephone. This assessment, the Research Lifestyle Assessment, included questions on various health habits such as diet, tobacco use, exercise habits, a 7-day timeline follow-back procedure on alcohol use,²² and a 28-day timeline assessment of binge drinking. For purposes of the larger project, patients also answered questions on family history of alcohol abuse,²³ negative consequences of drinking (G. Connors, personal communication, 1994), and on symptoms of alcohol withdrawal (lifetime and prior year). High-risk drinkers who were eligible for the study completed a consent form that explained they might receive counseling on one of these health habits at their next office visit. Patients were entered into the study at their next office visit with their usual primary care provider. Five hundred and thirty patients were recruited during April 1994 through April 1997.

Patient Exit Interview

In previous studies, the PEI has been shown to be a reliable and valid instrument to measure the implementation of counseling interventions.^{18,24} Trained research assistants administered PEIs to a random sampling of the study population in both special intervention and usual care conditions. These were done in person immediately after completion of the provider visit or by telephone interview within 24 hours if there were patient or interviewer time limitations after the office visit. In-person interviews were completed in 88% of the contacts. In-person interviewers were not blinded as to study condition because the interviewers easily became aware of whether they were in a special intervention or usual care practice. However, telephone interviewers were blinded to the treatment condition of the patient, and PEI scores for the two conditions did not differ by interview method ($p = .83$). This article reports on the 344 PEIs completed at the time of the first provider appointment after recruitment into the study.

The PEI score, based on the number of counseling steps that the patient reported had been used by the provider, ranged from 0 to 15. The PEI questions are structured to mirror the counseling steps taught in the alcohol-counseling intervention and that appear on the counseling algorithm (see Table 4 for PEI steps).

Statistical Analysis

Descriptive statistics were calculated for both physicians and patients. Comparisons between treatment conditions for patient and physician characteristics were made using the χ^2 test of homogeneity and a two-sample Student's t test for categorical and continuous measures, respectively.

Exploratory analyses were conducted to ensure that the assumptions for regression analysis (i.e., normality and heteroscedasticity) were not violated. In this study, the practice site was the unit of randomization and intervention, with physician nested within practice and patient nested within physician. Patients with the same provider were expected to be more similar to one another in behavior and response to the intervention than to patients of other providers. The analyses take this into consideration within physician correlation of patient characteristics. A mixed-model analysis of covariance was used, which allowed accounting for the nested nature of the study design (randomization at the level of clinic, within which physician and patient were nested). The dependent variable in this analysis was the patient-reported PEI score. Physician was included as a random effect, while treatment condition was included as a fixed effect.

Initial estimates of the differences between conditions did not control for any covariates. Subsequently, a group of potentially important covariates including patient age, gender, and education; physician gender and provider type (i.e., attending physician, resident, or nurse practitioner); as well as site, and method of data collection (i.e., in person or

by telephone) were examined to determine their association with the PEI score. The final model included only the covariates found to be important predictors of the PEI score (patient age and gender).

The overall interval between the date of the physician training and the date of the PEI was calculated and then divided into four 6-month intervals (except for the last interval, which was extended 2 months to include several PEIs that were completed more than 30 months after the physician's training). The average PEI score for each interval stratified by condition was calculated and plotted. All analyses were conducted using SAS software release 6.10 (SAS Institute, Cary, N.C., 1996).

RESULTS

Provider and Patient Characteristics

The 29 providers were predominantly white, evenly split across gender, and none of the provider characteristics shown in Table 1 differed significantly between conditions. Patient Characteristics of the 344 patients to whom PEIs were administered are shown in Table 2. There were no significant differences in patients between conditions. Fewer than 2% of the study population reported lifetime symptoms or symptoms of alcohol withdrawal during the previous month.

Patient Exit Interview Data

There was a significant difference between the number of counseling steps used by the providers in the special intervention condition and those in the usual care condition (Table 3). With a maximum potential score of 15, special intervention providers used significantly more of the counseling steps (mean PEI = 9.8) than usual care providers (mean PEI = 1.7).

Table 4 describes how often the individual counseling steps were carried out. Special intervention providers carried out every step significantly more often than did usual care providers and were more than twice as likely to discuss alcohol use with their patients. In only one case did an SI provider implement zero steps, in two cases only one step was carried out, and in three cases only two steps were carried out, while 75% of UC patients had two or fewer steps carried out (data not shown). The largest differences between conditions were seen in special intervention providers' more frequent discussion of the limits of healthy drinking and risks of alcohol dependence, expression of concern about the patients' alcohol use, and collaborative engagement with the patient in problem-solving interactions, which included discussing possible alternatives to drinking and reviewing problems associated with cutting down. Special intervention providers also were 11 times more likely to set up a follow-up appointment to discuss alcohol use. In addition, special

Table 2. Patient Characteristics by condition (n = 344)

Characteristic	Usual Care	Special Intervention	Total	p Value
Continuous variables, mean ($\pm$ SD)*				
Age, years	45.2 (14.6)	45.0 (13.4)	45.1 (13.9)	.91
Drinks per week	18.5 (22.8)	17.5 (17.3)	17.9 (19.7)	.67
Categorical variables, n (%)†				
Gender				
Male	84 (58)	134 (67)	218 (63)	.10
Female	60 (42)	66 (33)	126 (37)	
Race				
White	126 (95)	171 (96)	297 (96)	.78
Nonwhite	6 (5)	8 (4)	14 (4)	
Education				
Less than high school	10 (7)	11 (6)	21 (6)	.87
High school or some college	69 (50)	95 (50)	164 (50)	
College graduate or more	59 (43)	83 (44)	142 (43)	
Marital status				
Married	85 (63)	112 (60)	197 (61)	.64
Not married	51 (37)	75 (40)	126 (39)	
Employment status				
White collar	42 (32)	76 (40)	118 (36)	.32
Blue collar	40 (30)	55 (29)	95 (30)	
Other‡	51 (38)	60 (31)	111 (34)	

*The two sample Student's t test was used for the comparison of continuous variables.

†The χ^2 statistic was used for the test of homogeneity of proportions for categorical variables.

‡Other includes retired, unemployed, homemaker, and other categories of employment.

Table 3. Mean Number of Patient Exit Interview Steps Completed,* by Condition (n = 344)

Condition	n	Unadjusted Mean ($\pm$ SE)	Adjusted [†] Mean ($\pm$ SE)
Usual care	145	1.7	2.4
Special intervention	201	9.8 [‡]	10.3 [‡]

*The range for Patient Exit Interview steps is 0–15.

[†]Adjusted for age, gender, provider type, method of interview, and primary care site.

[‡]p = .0001.

intervention providers made use of the written patient education materials during 85% of the patient visits, and completed the written goal statement with their patients in 64% of the visits.

There were no significant intercondition differences when the PEI was administered over the telephone or in person.

Persistence of the intervention effect over time is seen in Figure 1, which plots PEI scores by condition as a function of time since the provider was trained. Excellent tracking is seen in both conditions, with no significant difference in PEI scores by time interval.

DISCUSSION

This study demonstrates that health care providers trained in a brief, alcohol-counseling intervention will counsel their high-risk drinking patients when cued to do so and facilitated by a well-structured, office support system. In a busy primary care office practice, physicians and nurse practitioners are forced to set priorities for their limited time with a patient. The provision of adequate office sup-

FIGURE 1. Persistence of physician training effect by treatment condition (n = 344). Mean Patient Exit Interview scores with vertical bars that represent the standard error of the mean.

port systems that screen and identify alcohol problems, as well as offer written counseling materials, makes it possible for the provider to carry out a brief counseling intervention. Prior research indicates that primary care providers believe it is important and that it is their responsibility to intervene with their patients' alcohol-related problems.¹⁰ Studies in provider-delivered lifestyle interventions also indicate that training is not enough to ensure that counseling will occur.^{18,19} Ockene and colleagues have demonstrated that providers working in high-pressure settings with multiple demands on their time will increase their preventive counseling interventions when they have the needed skills and have a facilitative office support system.¹⁸ The support system prompts providers and helps them implement a brief counseling intervention, which otherwise would be overlooked although it is acknowledged to be important. Solberg and colleagues also reported on

Table 4. Completion of Individual Counseling Steps Based on the Patient Exit Interview by Condition

Patient Exit Interview Step	Usual Care, %	Special Intervention, %	p Value
1. Provider discussed patient's alcohol use	42	98	<.001
2. Provider discussed limits of healthy drinking	14	84	<.001
3. Provider discussed possible negative health effects of drinking	22	82	<.001
4. Provider talked about risk of alcohol dependence	8	48	<.001
5. Provider asked if patient's alcohol use was a concern	13	63	<.001
6. Provider explored further why alcohol was a concern or if it could become a concern	26	74	.06
7. Provider expressed concern about patient's alcohol use	12	71	<.001
8. Provider asked about situations when patient drinks	8	41	<.001
9. Patient and provider discussed alternatives to drinking in these situations	3	45	<.001
10. Provider asked if patient had ever tried to cut down on alcohol use	9	44	<.001
11. Provider discussed problems associated with cutting down	3	21	<.001
12. Provider gave written materials to help patient cut down	1	85	<.001
13. Patient and provider discussed cutting down or stopping	17	83	<.001
14. Patient and provider completed written goal statement	0	64	<.001
15. Provider tried to set up a follow-up appointment to discuss alcohol use	6	67	<.001

the need for a systems-oriented approach to deliver preventive services in a busy practice setting.²⁵

Special intervention providers carried out the majority of the counseling steps in the counseling sequence, attesting to their desire to "do the right thing." In addition, the effect of training and an office support system did not diminish over time as measured by PEI scores (Fig. 1), most likely attesting to their commitment, the retention of the needed skills, and the effect of a facilitative office environment.

The largest differences in PEI scores reflected the special intervention providers' use of patient-centered counseling statements such as "Your health concerns are related to your alcohol use" (PEI step 3) and "What kind of drinking goals can you set for our next visit?" (PEI step 14). These findings reflect the patient-centered focus of the counseling intervention as a means of assisting a patient's attempt to make lifestyle changes.

The high frequency with which the safe drinking limits were reviewed is encouraging. As noted in the 1990 Institute of Medicine report, "the majority of alcohol-related morbidity stems not from the alcohol-dependent patient, but from the patient that simply drinks too much from time to time."⁶ Defining safe drinking limits allows the provider to address this issue in an initial brief counseling intervention without having to label the patient as an alcoholic or nonalcoholic. This initial limit-setting step appears more comfortable for the provider while sorting out whether or not dependency is an issue for the patient.

It is encouraging that the written tip sheets were given out in more than 85% of visits. They allow the provider to target certain counseling points and yet spend only a brief time on each counseling area. Unfortunately, in other studies patient educational materials have often been underutilized.²⁶

A possible limitation of this study is that personnel who conducted the PEIs at the office sites could not be blinded to the intervention. However, research assistants who conducted PEIs by telephone were blinded to the study condition, and mean PEI scores in each study condition did not vary by interview method (blinded vs nonblinded, $p = .83$).

This study did not include a condition of training with no office support. However, prior research addressing physician preventive counseling practices has demonstrated that training alone is insufficient to guarantee implementation of even the briefest counseling intervention.¹⁹ In contrast, we know that cuing alone (i.e., identifying patients with alcohol problems and prompting the provider with sample advice statements) increases the frequency of untrained provider-delivered alcohol-related advice.²⁷ The question that remains unanswered is what is the optimal training and office support design to maximize the most effective preventive and lifestyle counseling. Is screening and identifying these patients by flagging charts enough once a provider is trained to intervene? Is a counseling algorithm needed for each visit? Should patients with unhealthy lifestyle behaviors who cannot make changes with the help of brief office coun-

seling be automatically referred to more specialized counseling? Each of these issues must be sorted out to allow the most cost-effective approach to be determined.

Our study was set in busy primary care internal medicine practices. Although the offices are adjacent or near to our academic medical center, patient demographic characteristics are similar to those in a private community office. We believe the results of this study are applicable to any multiphysician office practice in which patient volume is high and there is a mix of HMO and fee-for-service patients. Although this article describes an alcohol-counseling intervention, we have demonstrated similar outcomes with smoking,²⁸ and dietary behavior.¹⁸ It also is likely that our findings would apply to other brief, provider-delivered office interventions such as for exercise.

We believe that others could implement similar interventions. Brief screening assessment tools exist, such as the Health Habits Questionnaire,²¹ or the World Health Organization's Alcohol Use Disorders Identification Test (AUDIT). These tools can be incorporated into self-administered office-based registration questionnaires and can be given to patients at registration by the clinic secretary. Provider review of these questionnaires would require only a few minutes, and counseling algorithms and patient tip sheets should be readily accessible.

Countless continuing medical education programs focus on teaching the primary care provider to help patients with alcohol-related issues. As alcohol overuse and abuse contribute significantly to patients' social and health problems and are a major cost to the health care budget, this focus is appropriate. However, training health care providers in a vacuum, for example, at a day-long conference, has little effect on provider practice.²⁹ Training must incorporate strategies for the provider that will support implementation of the skills. The primary health care provider has many patient-related issues competing for scarce time. For a counseling approach to become standard office practice, it must be effective and "doable." Brief alcohol counseling fits these criteria (as would several other preventive counseling approaches), and this article demonstrates that in the setting of a limited office support system such counseling will be successfully carried out.

This project was supported by a National Institutes of Health-National Institute on Alcohol Abuse and Alcoholism grant 5-R01-AA09153, part of the Project Health Study.

REFERENCES

1. Rice D. The economic cost of alcohol abuse and alcohol dependence: 1990. Washington, DC: National Institute on Alcohol Abuse and Alcoholism; National Institutes of Health; 1993:10-11. (Alcohol Health and Research World).
2. Anda R, Williamson D, Remington P. Alcohol and fatal injuries among U.S. adults: finding from the NHANES 1 epidemiologic followup study. *JAMA*. 1988;260:2529-32.
3. Eckardt M, Hartford T, Kaelber C. Health hazards associated with alcohol consumption. *JAMA*. 1981;246:648-61.

4. Kristenson H, Ohlin H, Hulten-Nosslin M, Trelle E, Hood B. Identification and intervention of heavy drinkers in middle-aged men: results and followup of 24–60 months of long-term study with randomized controls. *Alcohol Clin Exp Res*. 1983;7:203–9.
5. Wallace P, Cutler S, Haines A. Randomized controlled trial of general practitioner intervention in patients with excessive alcohol consumption. *BMJ*. 1988;297:663–8.
6. Bien T, Miller W, Tonigan J. Brief interventions for alcohol problems: a review. *Addiction*. 1993;88:315–36.
7. Fleming M, Barry K, Manwell L, Johnson K, London R. Brief physician advice for problem alcohol drinkers: a randomized controlled trial in community-based primary care practices. *JAMA*. 1997; 277:1039–45.
8. Institute of Medicine. Broadening the Base of Treatment for Alcohol Problems. Washington, DC: National Academy Press, 1990.
9. National Center for Health Statistics. Current Estimations from the National Interview Survey. Data from the National Health Survey. Hyattsville, Md: National Center for Health Statistics; 1981.
10. Bradley K, Curry S, Koepsell T, Larson E. Primary and secondary prevention of alcohol problems: U.S. internist attitudes and practices. *J Gen Intern Med*. 1995;10(2):67–72.
11. Hingson R, Mangione T, Meyers A. Seeking help for drinking problems: a study in the Boston metropolitan area. *J Stud Alcohol*. 1982;43:273–88.
12. Cleary P, Miller M, Bush B, et al. Prevalence and recognition of alcohol abuse in a primary care population. *Am J Med*. 1988; 85:466–71.
13. Buchsbaum D, Buchanan R, Poses R, Schnoll S, Lawton M. Physical detection of drinking problems in patients attending a general medicine practice. *J Gen Intern Med*. 1992;7(5):517–21.
14. Lisansky E. Why physicians avoid early diagnosis of alcoholism. *N Y State J Med*. 1975;75:1788–92.
15. Spickard A Jr. Alcoholism: the missed diagnosis. *South Med J*. 1986;79(12):1489–92.
16. Johnson B, Clark W. Alcohol: a challenging physician-patient encounter. *J Gen Intern Med*. 1989;4:445–52.
17. Babor T. Brief intervention strategies for harmful drinkers: new directions for medical education. *Can Med Assoc J*. 1990;143(10): 1070–6.
18. Ockene J, Hebert J, Ockene J, et al. Effect of training and a structured office practice on physician-delivered nutrition counseling: the Worcester-Area Trial for Counseling in Hyperlipidemia (WATCH). *Am J Prev Med*. 1996;12:252–8.
19. Ockene J, McBride P, Sallis J, Bonollo D, Ockene I. Synthesis of lessons learned from cardiopulmonary preventive interventions in healthcare practice settings. *Ann Epidemiol*. 1997;S7:S32–45.
20. Ockene J, Wheeler E, Adams A, Hurley T, Hebert J. Provider training for patient-centered alcohol counseling in a primary care setting. *Arch Intern Med*. 1997;157:2334–41.
21. Fleming M, Barry K. A three sample test of a masked screening questionnaire. *Alcohol Alcohol*. 1991;26:81–91.
22. Sobell L, Sobell M. Self-report issues in alcohol abuse. *Behav Assess*. 1990;12:77–90.
23. Andreasen N, Endicott J, Spitzer R, Winokur G. The family history method using diagnostic criteria. *Arch Gen Psychiatry*. 1977;34: 1229–35.
24. Pbert L, Adams A, Quirk M, et al. The patient exit interview as an assessment of physician-delivered smoking counseling interventions: a validation study. *Health Psychol*. In press.
25. Solberg L, Kottke T, Brekke M, et al. Using continuous quality improvement to increase preventive services in clinical practice—going beyond guidelines. *Prev Med*. 1996;25:259–67.
26. Ockene J, Adams A, Pbert L, et al. The physician-delivered smoking intervention: factors that determine how much the physician intervenes with smokers. *J Gen Intern Med*. 1994;9:379–84.
27. Buchsbaum D, Buchanan R, Lawton M, Elswick RJ, Schnoll S. A program of screening and prompting improves short-term physician counseling of dependent and nondependent harmful drinkers. *Arch Intern Med*. 1993;153:1573–7.
28. Ockene J, Kristeller J, Goldberg R, et al. Increasing the efficacy of physician-delivered smoking intervention: a randomized clinical trial. *J Gen Intern Med*. 1991;6:1–8.
29. Davis D, Thomson M, Oxman A, Haynes R. Changing physician performance: a systematic review of the effect of continuing medical education strategies. *JAMA*. 1995;274:700–5.

ANNOUNCEMENT

You can reach JGIM on the Internet!

For more information
about submitting manuscripts to JGIM
or if you would like to submit a
Letter to the Editor or a
short creative writing piece
for possible publication in the Journal,
please e-mail us at

jgim@mail.med.upenn.edu